

REMARKS

Claims 1-25 and 27-41 are pending. By this Response, claims 1, 16, 25, 27 and 29 are amended. Claim 26 is cancelled. Reconsideration and allowance based on the above amendments and following remarks are respectfully requested.

For reasons of brevity, applicants hereby incorporate the remarks filed in applicants Response dated October 4, 2004.

PRIOR ART REJECTIONS

The Office Action rejects claims 1-3, 5-9, 11-14, 16 and 25-36 under 35 U.S.C. §102(b) as being anticipated by Petrie, et al. (US 6,419,162); claim 4 under 35 U.S.C. §103 as being unpatentable over Petrie in view of Bloomberg (US 5,168,147); claims 17-24 and 37 under 35 U.S.C. §103 as being unpatentable over Petrie in view of Jackson, et al. (US 5,864,127); claims 10 and 15 under 35 U.S.C. §103 as being unpatentable over Petrie in view of Hecht (U.S. 6,000,613); and claims 1-3, 5-9, 11-14, 16, 25 through 36 and 38 through 41 under 35 U.S.C. §102 as being anticipated by Zhang (US 5,245,165) and also alternatively under 35 U.S.C. §103 as being unpatentable over Zhang in view of Petrie. These rejections are respectfully traversed.

Claims 1, 16, 25 and 29

Petrie

The Office Action alleges that Petrie teaches each of the features of independent claims 1, 16, 25 and 29. Applicant respectfully disagrees.

In Petrie, the symbol or glyph is part of a two dimensional array of pixel positions. The symbol or glyph is different depending on its value. Thus, the glyph itself is optically detectable and the value represented by which of the different symbols or glyph is detected. For example, a glyph could be a slanted line “/” which represents the value “1” while another glyph slanted in a different direction “\” represents the value “0”. These glyphs are different from each other since they are not the same marking. Their value is based upon this difference and not any type of relationship with a raster point. Thus, it is the glyph itself that determines the value and not the glyphs relationship to a detectable point such as a raster point claimed by applicants.

The Examiner alleges that the center of a slanted line which represents a glyph can be considered a raster point and that “the ends of the lines form a pattern of dots which is displaced from a normal position to encode the data.” Applicant respectfully submits that the symbol or glyph itself is not a raster point. Further, even if the Examiner’s reasoning is valid, which applicant contends it is not, the embodiments of independent claims 1, 16, 25 and 29 describe the center of the marking as being displaced from the raster point or offset therefrom. Thus, even if the center of the glyph (line) is the raster point,

as alleged by the Examiner, then the center of the glyph is clearly not displaced or offset from the center of the raster point. In fact, it would be located directly thereupon. Therefore, in Petrie the glyph center point is located directly upon the raster point. Thus, a displacement or offset of the center point of the glyph from the raster point is not taught.

Therefore, applicant respectfully submits that Petrie fails to teach, a “value of each symbol being indicated by a displacement of a center point of the at least one marking in relation to a raster point”, as recited in claims 1, 16 and 29. Further, applicant respectfully submits that Petrie fails to teach “wherein the displaced locations of markings are defined by an offset of a center point of each marking from the raster points”, as recited in claim 25.

Furthermore, Petrie teaches the use of data glyphs which are symbols representative of a value. The data glyphs are “rendered onto a recording medium in accordance with a preselected spatial formatting rule.” See column 4, lines 7-9. Nowhere does Petrie teach a plurality of raster points being regularly spaced, as recited in claims 25 and 29. In the embodiments of the present invention the markings are not regularly spaced. The raster points are regularly spaced and each marking is displaced with respect to a respective regularly spaced raster point. At best, Petrie teaches spatially aligning the data glyphs in a preselected format, not based on a relationship to regularly spaced raster points.

Thus, Petrie fails to teach each and every feature of independent claims 1, 16, 25 and 29. Further, Bloomberg and Hecht fail to make up for the deficiencies of Petrie. Bloomberg teaches the use of circular markings in place of slanted lines to represent “glyphs.” Hecht teaches the use of a glyph that has a multi-bit digital value. However, Bloomberg and Hecht each fail to teach the features absent in Petrie as discussed above.

Therefore, applicant respectfully submits that independent claims 1, 16, 25 and 29 and their dependent claims are distinguishable from the teachings of Petrie alone or in combination with Bloomberg or another reference.

Zhang

The Office Action alleges that Zhang teaches each and every feature of claims 1, 16, 25 and 29. Applicant respectfully disagrees.

Zhang teaches wedge-shaped (triangular) glyphs. Each glyph is contained within a bounding box. The location of the triangular glyph within the bounding box, either in the upper right, upper left, lower right or lower left quadrant, determines the value of the glyph. The hypotenuse of the triangular glyphs always intersects the center of the cross hairs, alleged by the Examiner to be the raster point, of the bounding box. Thus, Zhang teaches that the glyph is located on the raster point. This is contrary to applicant’s claimed invention in which the center of the marking is displaced or offset from the raster point.

Therefore, Zhang fails to teach, a “value of each symbol being indicated by a displacement of a center point of the at least one marking in relation to a raster point”, as recited in claims 1, 16 and 29. Zhang fails to teach “wherein the displaced locations of markings are defined by an offset of a center point of each marking from the raster points”, as recited in claim 25.

Further, one of ordinary skill would not be motivated to combine Zhang’s teachings with Petrie. Petrie’s glyphs are designed so that they are discrete to enable them to form a recognizable image. To the contrary, Zhang teaches using large rectangular shapes purposely to facilitate decoding and allow the decoding to occur even if degradation of the symbol has occurred. See column 3, lines 34 through 39. Zhang also emphasizes that the wedge-shaped glyph should fill half of a square bounding box, in order for the glyph code to have a substantially uniform textured appearance. Thus, the large rectangular shapes allows Zhang to obtain a uniform appearance of the coding pattern. See the paragraph bridging columns 3 and 4. Zhang neither teaches nor suggests using its glyphs pattern to form recognizable images. Further, one of ordinary skill would not be motivated to use the triangular blocks to obtain recognizable images.

The Examiner alleges that “it is immediately clear that the inventors at Xerox had contemplated that the code taught by Zhang could be used to form an image.” This statement is purely conjecture since Zhang does not teach or suggest using its data box to form recognizable images as taught in Petrie.

Further, Petrie neither teaches nor suggests using large rectangular blocks in its application. Zhang only teaches that the large blocks are created to ensure accurate decoding even if degradation has occurred. In fact, based on the same reasoning the Examiner has applied, it can be argued that Petrie should be well aware of his fellow Xerox inventor Zhang's patent and the fact that the Zhang patent is not mentioned among the numerous references to previous Xerox patents in the Petrie patent (filed well after the Zheng patent) is an indication that the teachings of Petrie are not applicable to the teachings of Zheng.

Therefore, in view of the above, applicant respectfully submits that Zhang fails to teach either alone or in combination with Petrie the claimed features as recited in independent claims 1, 16, 25 and 29 and their respective dependent claims.

Claims 18, 19, 22, 23 and 24

The Office Action alleges that Petrie in combination with Jackson teaches each of the recited features of independent claims 18, 19, 22, 23 and 24. Applicant respectfully disagrees.

As discussed above, Petrie fails to teach or suggest, *inter alia*, a value of each symbol being indicated by a placement of the at least one marking in relation to the raster point, as recited in claims 18 and 19; determining a value of the symbol, wherein the value is defined by a spatial relationship between

the marking and raster point, as recited in claim 22 and determining a value of the symbol, wherein the value is at least defined by the location of at least one marking with respect to at least one raster point, as recited in claims 23 and 24. Thus, for this reason alone, the rejection with regard to claims 18, 19, 22, 23 and 24 should be withdrawn.

Furthermore, Jackson fails to make up for the deficiencies of Petrie. The Examiner alleges that Jackson is provided to illustrate that a marking may overlap during printing. Applicant respectfully submits that although Jackson may illustrate that some markings overlap during the printing process, Jackson does not teach or suggest identifying the overlap marking and determining the location of the marking based on the contrasting indicator. In fact, as stated in applicant's previous response dated October 4, 2004, and reiterated here, the Examiner does not even address this feature recited in the applicants claims 18, 19, 22, 23 and 24.

Thus, applicant respectfully submits that the combination of Petrie and Jackson also fails to teach or suggest, *inter alia*, determining markings which at least partially overlap one another and reading for each overlapped marking at least one contrasting indicator, the spatial extent and a place within the marking of which indicate a placement of the marking as recited in independent claims 18 and 19; identifying markings at least partially overlapped, determining at least one contrasting indicator for each overlapping

marking and determining a location of the marking based on the at least one contrasting indicator, as recited in claims 22, 23 and 24.

### Conclusion

In view of the above, applicant respectfully submits that the references either alone or in combination fail to teach each and every feature of the claims as required and further, motivation for combining the teachings in some of the references is absent. Accordingly, applicant respectfully requests consideration and withdrawal of the above-noted rejections.

In view of the above, applicant respectfully submits that the application is in condition for allowance. Favorable consideration and prompt allowance are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings (Reg. No. 48,917) at the telephone number of the undersigned below in an effort to expedite prosecution in connection with the present application.



Appl. No. 09/812,901

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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